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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/786,495	04/30/2001	Soeren Gregersen	606-25-PCT-PA	1552

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EXAMINER

WALLENHORST, MAUREEN

ART UNIT	PAPER NUMBER
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1743

DATE MAILED: 07/22/2003

7

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/786,495

Applicant(s)

GREGERSEN, SOEREN

Examiner

Maureen M. Wallenhorst

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7, 9 and 10 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-7 and 9 is/are rejected.
- 7) ☒ Claim(s) 4 and 10 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☐ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. ____.
 - 3) ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

2. This application does not contain an abstract of the disclosure as required by 37 CFR 1.72(b). An abstract on a separate sheet is required. Applicant is requested to place the abstract from the corresponding PCT application on a separate sheet.

3. The disclosure is objected to because of the following informalities: On page 5, line 5 of the specification, the brief description of Figure 6 does not include a brief description of Figures 6a and 6b.

Appropriate correction is required.

4. Claim 10 is objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend from another multiple dependent claim. See MPEP § 608.01(n). Claim 10 depends from claims 1-9, and claims 7 and 9 are multiple dependent claims themselves. In addition, claim 8 has been canceled, and therefore, claim 10 cannot depend from claim 8. Accordingly, the claim has not been further treated on the merits.

5. Claims 2, 5-7 and 9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 2 is indefinite since it is not clear whether the side-tube is connected to the transparent tube. The structural relationship between the side-tube and the transparent tube is not clear.

On line 13 of claim 5, the phrase "the connection between the supplier tube and the transport tube" lacks antecedent basis since no connection between these two components in the

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apparatus was previously recited. On lines 15-16 of claim 5, it is suggested to change the phrase “any of these two said tubes” to –either said transport tube or said supplier tube—in order to provide further clarification.

On line 14 of claim 6, the phrase “the connection to said capillary end section” lacks antecedent basis.

On line 2 of claim 7, the phrase “the suspension” lacks antecedent basis, and should be changed to –the solution--. On line 4 of claim 7, the phrase “the internal volume” lacks antecedent basis.

On line 1 of claim 9, the phrase “according to any of claims 1-6” should be changed to –according to any one of claims 1-6—for further clarification.

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1, 3 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Funakubo et al. (EP 195,088, submitted in the Information Disclosure Statement filed June 22, 2001, or US Patent no. 5,106,584).

Funakubo et al teach of a cell selecting apparatus, which comprises a container 1 holding a liquid culture and cells (equivalent to a reservoir containing a solution with particles). A pipette manipulator 3 is moved to the location of the container 1 to collect a volume of the

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solution contained therein. The manipulator 3 then dispenses the solution containing cells into the wells of a tray 6 (equivalent to the first container into which an amount of a solution containing particles is fed from the reservoir, as recited in instant claim 1). The pipette 4 on the manipulator 3 is equivalent to the capillary tube device recited in the instant claims. The tray 6 is then transported to a cultivating section 12 in an incubator. After the passage of a predetermined period, the tray 6 is moved from the incubator to a colony observation section 24. Each well is inspected by a microscope-equipped TV camera, which forms an image of the cells in each well, and sends to a controller 25 a measurement signal. In the controller 25, the measurement signal is image-processed and the proportion of live cells is calculated. Through this process, the desired kinds of cells can be selected from the wells. The controller 25 is a computer, and a program in the computer provides digital image processing to an enlarged image taken at the input section of the camera to detect cell colonies. A predetermined quantity of a desired cell solution in a well is then injected by the pipette manipulator 3 into a diluting vessel 61, where a predetermined quantity of diluting liquid is added to achieve a desired concentration. The diluted cell solution is then sucked into a thin tube 64, which contains electrodes therein to count and detect cells flowing through. Desired cells that are detected in the tube 64 are collected into a second culture tray 6. This second culture tray 6 serves as a second container for the accumulation of specific types of selected particles, as recited in the instant claims. The pipette manipulator 3 is controlled by signals from the computer for moving the pipette 4 to different positions in the apparatus.

8. Claims 1, 3 and 9 are rejected under 35 U.S.C. 102(e) as being anticipated by Hering.

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Hering teaches of an apparatus for handling objects in a liquid bath, which according to the embodiment depicted in Figure 6, comprises a preparation station 61 and a treatment station 62. A liquid conveying device 64 containing a pipette tip is movable with the help of a manipulator 65 between the different stations of the apparatus. The manipulator 65 is operated by a control unit. The control unit contains an image processing system, which receives input signals from a picture recording device 66 (a CCD camera). The treatment station contains a holding device with means for supplying a liquid bath containing cells to a means 11 for receiving the bath (i.e. equivalent to the reservoir and first container recited in instant claim 1). The treatment steps of the method include recording pictures or images of the particles in the liquid bath 1 with the help of a picture recording device 66. In an analyzing step, parameters of the particles are determined. At the same time, the coordinates of the particles are stored for controlling the manipulator 65. The pictures are subject to an image recognition and/or image processing method, which is adapted to identify predetermined clones or cell aggregates. Liquid conveying device 64 can then move certain cell clusters from the liquid bath 1 into at least one further bath (not shown, but equivalent to the second container recited in instant claim 1). A control unit 67 with a display device 68 serves to display an image of a particle (i.e. cells). The method taught by Hering comprises the removal of a specific number of particles and the transfer into another liquid bath. The method can be used in biological applications such as selecting specific cell clusters with particular characteristics. These specific clusters are marked with the image processing system. Following the determination of the coordinates of the cell clusters by the system, the pipette tip is moved to the cell cluster determined so as to separate the clusters

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from the remaining cells. See lines 44-67 in column 9, column 10 and lines 1-25 in column 11 of Hering.

9. Claim 4 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims since none of the prior art of record teaches or fairly suggests the features of the apparatus for the isolation of particles as recited in this claim.

10. Claims 2 and 5-7 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims for the same reasons as given above.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Maureen M. Wallenhorst whose telephone number is 703-308-3912. The examiner can normally be reached on Monday-Wednesday from 6:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden, can be reached on (703) 308-4037. The fax phone number for the organization where this application or proceeding is assigned is 703-305-7719.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

mmw

July 21, 2003

Maureen M. Wallenhorst
MAUREEN M. WALLENHORST
PRIMARY EXAMINER
GROUP ~~1700~~ 1700